

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 – 60 (canceled).

61. (new) A method of communication between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the method comprising:

calling an interface of the second object by the first object on the first computer, wherein the interface of the second object is identified only with an interface pointer identifier, and wherein the calling the interface of the second object by the first object comprises bypassing a mechanism, the bypassed mechanism comprising adding a remote procedure call interface identifier to the call;

performing remote procedure call utility functions on the call at the first computer; and communicating the call to the second computer, wherein the second computer receives the call, performs remote procedure call utility functions on the call, passes the call to a dispatching function so as to bypass a remote procedure call dispatching function, invokes a stub, and accesses the interface of the second object identified by the interface pointer identifier.

62. (new) The method of claim 61 wherein the calling of the interface comprises: posting, on the first computer, a first send buffer and a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data

from the second computer, and wherein the first receive buffer is posted to be of sufficient size to accept the second data; and
sending the first data to the second computer via the first send buffer.

63. (new) The method of claim 62 wherein the calling further comprises:
cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.
64. (new) The method of claim 62 wherein the calling further comprises:
cleaning up, on the first computer, a second send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.
65. (new) The method of claim 62 wherein the second data from the second computer is in response to the first data from the first computer.
66. (new) The method of claim 61 wherein the first computer has a first memory location and a buffer, and access to the network through an interface card on the first computer, the method further comprising:
placing in the buffer a copy of a first pointer to a first parameter, wherein the first parameter is used in the calling of the interface of the second object and wherein the first pointer points to the first parameter in the first memory location; and

transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the first parameter out of the first memory location.

67. (new) The method of claim 66 further comprising issuing a notification on the first computer after the network interface card has finished reading the first parameter out of the first memory location.
68. (new) The method of claim 67 further comprising reclaiming the first memory location after receiving the notification.
69. (new) The method of claim 66 further comprising:
placing in the buffer a copy of the first pointer to the first parameter and a copy of a second pointer to a second parameter, wherein the second parameter is used in the calling of the interface of the second object and wherein the second pointer points to the second parameter in a second memory location on the first computer; and
transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the parameter out of the first memory location and the second parameter pointed to by the second pointer by reading the second parameter out of the second memory location.
70. (new) The method of claim 69 further comprising issuing a first notification on the first computer after the network interface card has finished reading the first parameter out of the

first memory location and issuing a second notification on the first computer after the network interface card has finished reading the second parameter out of the second memory location.

71. (new) The method of claim 70 further comprising reclaiming the first memory location after receiving the first notification and reclaiming the second memory location after receiving the second notification.
72. (new) The method of claim 66 wherein the transmitting comprises:
posting, on the first computer, a first send buffer and a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data from the second computer, and wherein the first receive buffer is posted to be of sufficient size to accept the second data; and
sending the first data to the second computer via the first send buffer.
73. (new) The method of claim 72 wherein the transmitting further comprises:
cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.
74. (new) The method of claim 72 wherein the transmitting further comprises:
cleaning up, on the first computer, a second send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

75. (new) The method of claim 72 wherein the second data from the second computer is in response to the first data from the first computer.
76. (new) A computer-readable medium having computer-executable instructions to enable communications between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the computer-executable instructions performing steps comprising:
- calling an interface of the second object by the first object on the first computer, wherein the interface of the second object is identified only with an interface pointer identifier, and wherein the computer-executable instructions for calling the interface of the second object by the first object comprise computer-executable instructions for bypassing computer-executable instructions, the bypassed computer-executable instructions comprising adding a remote procedure call interface identifier to the call;
- performing remote procedure call utility functions on the call at the first computer; and communicating the call to the second computer, wherein the second computer receives the call, performs remote procedure call utility functions on the call, passes the call to a dispatching function so as to bypass a remote procedure call dispatching function, invokes a stub, and accesses the interface of the second object identified by the interface pointer identifier.

77. (new) The computer-readable medium of claim 76 wherein the calling of the interface comprises:
- posting, on the first computer, a first send buffer and a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data from the second computer, and wherein the first receive buffer is posted to be of sufficient size to accept the second data; and sending the first data to the second computer via the first send buffer.
78. (new) The computer-readable medium of claim 77 wherein the calling further comprises:
- cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.
79. (new) The computer-readable medium of claim 77 wherein the calling further comprises:
- cleaning up, on the first computer, a second send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.
80. (new) The computer-readable medium of claim 77 wherein the second data from the second computer is in response to the first data from the first computer.
81. (new) The computer-readable medium of claim 76, wherein the first computer has a first memory location and a buffer, and access to the network through an interface card on the

first computer, having further computer-executable instructions for performing steps comprising:

placing in the buffer a copy of a first pointer to a first parameter, wherein the first parameter is used in the calling of the interface of the second object and wherein the first pointer points to the first parameter in the first memory location; and transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the first parameter out of the first memory location.

82. (new) The computer-readable medium of claim 81 having further computer-executable instructions for performing steps comprising: issuing a notification on the first computer after the network interface card has finished reading the first parameter out of the first memory location.

83. (new) The computer-readable medium of claim 82 having further computer-executable instructions for performing steps comprising:
reclaiming the first memory location after receiving the notification.

84. (new) The computer-readable medium of claim 81 having further computer-executable instructions for performing steps comprising:
placing in the buffer a copy of the first pointer to the first parameter and a copy of a second pointer to a second parameter, wherein the second parameter is used in the calling of the

interface of the second object and wherein the second pointer points to the second parameter in a second memory location on the first computer; and
transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the parameter out of the first memory location and the second parameter pointed to by the second pointer by reading the second parameter out of the second memory location.

85. (new) The computer-readable medium of claim 84 having further computer-executable instructions for performing steps comprising:
issuing a first notification on the first computer after the network interface has finished reading the first parameter out of the first memory location and issuing a second notification on the first computer after the network interface card has finished reading the second parameter out of the second memory location.
86. (new) The computer-readable medium of claim 85 having further computer-executable instructions for performing steps comprising: reclaiming the first memory location after receiving a notification and reclaiming the second memory location after receiving the second notification.
87. (new) The computer-readable medium of claim 81 wherein the transmitting comprises:
posting, on the first computer, a first send buffer and a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data

from the second computer, and wherein the first receive buffer is posted to be of sufficient size to accept the second data; and sending the first data to the second computer via the first send buffer.

88. (new) The computer-readable medium of claim 87 wherein the transmitting further comprises:

cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

89. (new) The computer-readable medium of claim 87 wherein the transmitting further comprises:

cleaning up, on the first computer, a second send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

90. (new) The computer-readable medium of claim 87 wherein the second data from the second computer is in response to the first data from the first computer.

91. (new) A method of communication between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the method comprising:

receiving, at the second computer, a call to an interface of the second object from the first object on the first computer, wherein the interface of the second object is identified only with an interface pointer identifier;

performing remote procedure call utility functions on the received call, wherein the remote procedure call utility functions are performed on the received call by a remote procedure call utility layer, the remote procedure call utility layer comprising a pointer to the dispatching function, wherein the pointer allows the call to be passed directly to the dispatching layer;

passing the received call to a dispatching function so as to bypass a remote procedure call dispatching function; invoking a stub; and

accessing the interface of the second object identified by the interface pointer identifier.

92. (new) The method of claim 91 wherein the receiving comprises:
- storing, on the second computer, a second data into a first receive buffer, wherein the first receive buffer was posted prior to sending a first data to the first computer.
93. (new) The method of claim 92 wherein the first data to the first computer was sent prior to receiving the second data from the first computer.
94. (new) The method of claim 92 wherein the receiving further comprises:
- cleaning up, on the second computer, a send buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.

95. (new) The method of claim 92 wherein the receiving further comprises:
cleaning up, on the second computer, a second receive buffer after sending the first data to
the first computer and prior to receiving the second data from the first computer.
96. (new) The method of claim 91 wherein the second computer has a memory storage location
and a buffer, and access to the network through a network interface card on the second
computer, the method further comprising:
receiving a call from the first object on the interface of the second object;
receiving, by the network interface card, a parameter of the call from the first object;
storing the parameter in a memory location; and
accessing, by the second object, the parameter.
97. (new) The method of claim 96 wherein the memory location is the buffer, and wherein the
accessing the parameter is performed in the buffer.
98. (new) The method of claim 97 further comprising copying the parameter from the buffer
into the memory storage location, wherein the accessing the parameter is performed in the
memory storage location.
99. (new) The method of claim 96 wherein the memory location is the memory storage location,
and wherein the accessing the parameter is performed in the memory storage location.

100. (new) The method of claim 96 wherein the receiving comprises:
storing, on the second computer, a second data into a first receive buffer, wherein the first receive buffer was posted prior to sending a first data to the first computer, and wherein the first receive buffer was posted to be of sufficient size to accept the second data.
101. (new) The method of claim 100 wherein the first data to the first computer was sent prior to receiving the second data from the first computer.
102. (new) The method of claim 100 wherein the receiving further comprises:
cleaning up, on the second computer, a send buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.
103. (new) The method of claim 100 wherein the receiving further comprises:
cleaning up, on the second computer, a second receive buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.
104. (new) A computer-readable medium having computer-executable instructions to enable communications between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the computer-executable instructions performing steps comprising:

receiving, at the second computer, a call to an interface of the second object from the first object on the first computer, wherein the interface of the second object is identified only with an interface pointer identifier;

performing remote procedure call utility functions on the received call, wherein the computer-executable instructions for performing remote procedure call utility functions on the received call comprise a pointer to the dispatching function, wherein the pointer allows the call to be passed directly to the dispatching layer;

passing the received call to a dispatching function so as to bypass a remote procedure call dispatching function;

invoking a stub; and

accessing the interface of the second object identified by the interface pointer identifier.

105. (new) The computer-readable medium of claim 104 wherein the receiving comprises:
storing, on the second computer, a second data into a first receive buffer, wherein the first receive buffer was posted prior to sending a first data to the first computer.
106. (new) The computer-readable medium of claim 105 wherein the first data to the first computer was sent prior to receiving the second data from the first computer.
107. (new) The computer-readable medium of claim 105 wherein the receiving further comprises:

cleaning up, on the second computer, a send buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.

108. (new) The computer-readable medium of claim 105 wherein the receiving further comprises:

cleaning up, on the second computer, a second receive buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.

109. (new) The computer-readable medium of claim 104, wherein the second computer has a memory storage location and a buffer, and access to the network through a network interface card on the second computer, having further computer-executable instructions for performing steps comprising:

receiving a call from the first object on the interface of the second object; receiving, by the network interface card, a parameter of the call from the first object;
storing the parameter in a memory location; and
accessing, by the second object, the parameter.

110. (new) The computer-readable medium of claim 109 wherein the memory location is the buffer, and wherein the accessing the parameter is performed in the buffer.

111. (new) The computer-readable medium of claim 110 having further computer-executable instructions for performing steps comprising:

copying the parameter from the buffer into the memory storage location, wherein the accessing the parameter is performed in the memory storage location.

112. (new) The computer-readable medium of claim 109 wherein the memory location is the memory storage location, and wherein the accessing the parameter is performed in the memory storage location.
113. (new) The computer-readable medium of claim 109 wherein the receiving comprises:
storing, on the second computer, a second data into a first receive buffer, wherein the first receive buffer was posted prior to sending a first data to the first computer, and wherein the first receive buffer was posted to be of sufficient size to accept the second data.
114. (new) The computer-readable medium of claim 113 wherein the first data to the first computer was sent prior to receiving the second data from the first computer.
115. (new) The computer-readable medium of claim 113 wherein the receiving further comprises:
cleaning up, on the second computer, a send buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.
116. (new) The computer-readable medium of claim 113 wherein the receiving further comprises:

cleaning up, on the second computer, a second receive buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.

117. (new) A computing device comprising:

an object, the object comprising an interface that is called by a second object on a second computing device, wherein the interface is identified only with an interface pointer identifier;

a network connection, wherein the network connection communicably connects the computing device to the second computing device;

a remote procedure call utility layer, wherein the remote procedure call utility layer performs remote procedure call utility functions on the interface call by the second object and passes the interface call to a dispatching function so as to bypass a remote procedure call dispatching function and wherein the remote procedure call utility layer comprises a pointer to the dispatching function, wherein the pointer allows the call to be passed directly to the dispatching function; and

a dispatching layer comprising the dispatching function, wherein the dispatching layer invokes a stub and accesses the interface identified by the interface pointer identifier.

118. (new) A computing device comprising:

an object, the object calling an interface of a second object on a second computing device, wherein the interface is identified only with an interface pointer identifier;

a remote procedure call utility layer, wherein the remote procedure call utility layer performs remote procedure call utility functions on the call;

a bypass of a mechanism, the mechanism comprising adding a remote procedure call interface identifier to the call; and

a network connection, wherein the network connection communicates the call to the second computing device, and wherein further the second computing device receives the call, performs remote procedure call utility functions on the call, passes the call to a dispatching function so as to bypass a remote procedure call dispatching function, invokes a stub, and accesses the interface of the second object identified by the interface pointer identifier.